

A LIST OF THE COCCOIDEA SPECIES (HOMOPTERA)
OF PUERTO RICO

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Abstract.—One hundred twenty-nine species of Coccoidea representing 72 genera and 10 families are recorded from Puerto Rico. Seven species are reported for the first time. Although mentioned in this paper, eight species apparently do not occur in Puerto Rico. Collection records based on examined material are presented for species that were misidentified and reported in the literature as another species. Unreported collection data also are given for other species.

In a publication on the food plants of the insects of Puerto Rico, Martorell (1976) listed 102 nominate Coccoidea species. Based on information compiled up to June 30, 1979, from examination of Puerto Rican material in the U.S. National Museum, research of literature, agricultural quarantine interception records, and recent collecting by various people, 129 species in 72 genera and 10 families are known to occur in Puerto Rico. *Aonidiella aurantii* (Maskell) and *Saissetia oleae* (Olivier) reported from Puerto Rico were not seen by the authors; however, these species are likely to be established on the island, and they have been included in this list. Two species denoted with a cross (+) are known only from agricultural quarantine interceptions. They are included because other species previously known only from quarantine interceptions were subsequently collected. Seven species denoted with two asterisks (**) are reported for the first time. Species previously reported in the literature that apparently do not occur in Puerto Rico are listed with comments and denoted with two crosses (++), or are treated as misidentifications of other included species.

Collection records based on examined material are presented for species that were misidentified and reported in the literature as another species. Unreported collection records are also given for other species.

The list is arranged alphabetically by family, genus, and species. References using the current accepted binomens are cited first followed by cita-

tions using synonyms. References published prior to Wolcott (1948) are not cited except when the species was not treated by him.

ACLERIDIDAE

Aclerda sacchari Teague.—Wolcott, 1948; Martorell, 1976.

ASTEROLECANIIDAE

Asterolecanium bambusae (Boisduval).—Wolcott, 1948; Martorell, 1976.

Asterolecanium epidendri (Bouché).—Wolcott, 1948; Martorell and Medina Gaud, 1974; Martorell, 1976.

Asterolecanium ingae Russell.—Wolcott, 1948; Martorell, 1976.

Asterolecanium longum (Green) ++.—Wolcott, 1948; Martorell, 1976. Old records apparently based on misidentifications.

Asterolecanium miliare miliare (Boisduval).—Russell, 1941. Additional records: Near Arus, *Bambusa* sp., 17-VII-77, SN; Barcelona, *Bambusa* sp., 16-VII-77, SN; Corozal, *Bambusa vulgaris*, 4-II-71, S. Medina Gaud; Mayaguez, *Bambusa vulgaris*, 27-X-36, H. R. Plank.

Asterolecanium miliare robustum Green.—Wolcott, 1948; Martorell, 1976.

Asterolecanium pseudomiliare Green.—Wheeler et al., 1948. Additional records: Barcelona, *Bambusa* sp., 16-VII-77, SN; Mayaguez, bamboo, ltr. of 18-IV-16, R. H. Van Zwaluwenburg, 12-VIII-30, A. G. Harley; Puerto Rico, *Bambusa nana*, 16-III-24, N. L. and E. G. Britton.

Asterolecanium pustulans (Cockerell).—Wolcott, 1948; Martorell, 1976.

CEROCOCCIDAE

Cerococcus deklei Kosztarab and Vest.—Martorell, 1976.

COCCIDAE

Ceroplastes cerifer (Fabricius) ++.—Gimpel et al., 1974; *Ceroplastes ceriferus* (Anderson): Wolcott, 1948; Martorell, 1976. Records of this species are based on two old collections. The record from *Sauvagesia erecta* (Wolcott, 1948) is a misidentification of an undescribed *Ceroplastes*, and very likely, the record from *Bursera simaruba* is also a misidentification.

Ceroplastes cirripediformis Comstock.—Wolcott, 1948; Martorell, 1976; Gimpel et al., 1974.

Ceroplastes cistudiformis Townsend and Cockerell ++.—Wolcott, 1948; Martorell, 1976. Based on old records that probably are misidentifications.

Ceroplastes dugesii Lichtenstein **.—Records: Humacao (Palmas Del Mar), unknown host, 2-II-73, T. H. Flavell; Vega Alta, *Piper medium*, 26-I-17, R. T. Cotton.

Ceroplastes floridensis Comstock.—Wolcott, 1948; Gimpel et al., 1974; Martorell, 1976.

Ceroplastes rubens Maskell.—Medina Gaud and Garcia Tuduri, 1977. Ad-

- ditional records: Arecibo, *Aglaonema commutatum pseudobracteatum*, 8-VI-76, K. Stolley; Caribbean National Forest (Loquillo), *Dicranopteris flexuosa*, 22-VII-77, SN; Toa Baja, *Aglaonema* sp., *Ixora* sp., *Mangifera indica*, 13-III-75, H. O'Steen et al.; quarantine interception at San Juan, *Ixora coccinea*, 15-X-74, J. Thaw.
- Ceroplastes rusci* (Linnaeus).—Nakahara, 1978b; *Ceroplastes denudatus* Cockerell; Wolcott, 1948; Martorell, 1976.
- Coccus hesperidum* Linnaeus.—Wolcott, 1948; Martorell, 1976. Additional record: Isla Verde, *Brassaia actinophylla*, *Yucca* sp., 14-VII-77, SN.
- Coccus longulus* (Douglas).—Gill et al., 1977; *Coccus elongatus* (Signoret): Medina Gaud and Garcia Tuduri, 1977. Additional records: Hato Rey, *Spathiphyllum lanceifolium*, 13-III-73, S. Medina Gaud; Isla Verde, *Cajanus cajan*, 11-VII-77, C. E. Miller and SN; Rio Piedras, *Phaseolus puearia*, 8-III-54, H. Cibes; quarantine interception from Puerto Rico at New York, *Annona muricata*, 8-V-33, H. G. Taylor.
- Coccus moestus* De Lotto.—Gill et al., 1977, Medina Gaud and Garcia Tuduri, 1977.
- Coccus viridis* (Green).—Wolcott, 1948; Martorell, 1976.
- Cryptostigma secretus* (Morrison).—Wolcott, 1948; Martorell, 1976.
- Eucalymnatus tessellatus* (Signoret).—Wolcott, 1948; Martorell, 1976. Additional record: Isla Verde, *Ardisia* sp., 15-VII-77, SN.
- Inglisia vitrea* Cockerell.—Wolcott, 1948; Martorell, 1976.
- Kilifia acuminata* (Signoret).—*Coccus acuminatus* (Signoret): Wolcott, 1948; Martorell, 1976. Additional record: Quarantine interception from Puerto Rico at Miami, *Ixora* sp., 29-VI-65, L. A. McClain.
- Parasaissetia nigra* (Nietner).—*Saissetia nigra* (Nietner): Wolcott, 1948; Medina Gaud and Martorell, 1974; Martorell, 1976.
- Protopulvinaria longivalvata* Green.—Wolcott, 1948; Martorell, 1976. Additional records: Rio Piedras, *Mangifera indica*, 24-IV-75, J. Garcia Tuduri; Reserva Forestal Maricao, *Samyda spanulosa*, 21-VII-77, SN.
- Protopulvinaria mangiferae* (Green).—*Coccus mangiferae* (Green): Wolcott, 1948; Martorell, 1976.
- Protopulvinaria pyriformis* (Cockerell).—Martorell, 1976. Additional records: Reserva Forestal Maricao, unknown host, 21-VII-77, SN; quarantine interception at San Juan, *Psidium guajava*, 24-VIII-69, L. Crawford.
- Pulvinaria elongata* Newstead.—Martorell, 1976. *Pulvinaria iceryi* (Guérin-Ménéville): Wolcott, 1948.
- Pulvinaria psidii* Maskell.—Wolcott, 1948; Martorell, 1976.
- Pulvinaria urbicola* Cockerell.—Wolcott, 1948; Martorell, 1976. Additional records: Isla Verde, *Bidens pilosa*, 11-VII-77, C. E. Miller and SN; Bahia Montalva, *Melochia tomentosa*, 17-VII-77, SN.
- Saissetia coffeae* (Walker).—Martorell and Medina Gaud, 1974; Garcia Tu-

duri et al., 1974; Martorell, 1976: *Saissetia hemisphaerica* (Targioni): Wolcott, 1948.

Saissetia miranda (Cockerell and Parrott) **.—*Saissetia oleae* (Bernard): Wolcott, 1948; *Saissetia oleae* (Olivier): Martorell, 1976 (misidentifications in part). Records: Arecibo, *Terminalia* sp., 29-VI-17, H. Morrison*, *Erythrina berteriana*, 27-IX-40, G. N. Wolcott*; Fajardo, *Ficus* sp., 4-IX-32, G. N. Wolcott*; Isabela, *Gossypium* sp., 27-IX-35, L. C. Fife*; Isla Verde, *Cajanus cajan*, 11-VII-77, C. E. Miller and SN, *Erythrina* sp., *Yucca* sp., 14-VII-77, SN; Lajas, *Abutilon hirtum*, 12-XI-35, L. C. Fife*; Mayaguez, *Abelmoschus esculentus*, 15-XI-35, L. C. Fife*; Maricao (Maricao Insular Forest), *Cedrela odorata*, 15-XII-36, L. F. Martorell*; Mona Is., *Gossypium punctatum*, 5-IV-44, G. N. Wolcott*; Ponce, *Mangifera indica*, 10-III-17, H. Morrison*; *Spondias dulcis*, 10-VIII-32, R. G. Oakley*, *Tamarindus indica*, 28-VI-32, Bofill and Oakley*; Rio Piedras, *Swietenia mahogany*, 29-III-32, M. D. Leonard*; *Plumeria rubra*, ltr. of 8-II-49, L. F. Martorell*; San Juan, *Psidium guajava*, 27-V-30, A. S. Mills*, *Ixora coccinea*, 13-III-75, H. O'Steen et al.; Santurce, *Terminalia catappa*, 9-V-32, A. S. Mills*, *Zanthoxylum flavum*, 15-V-40, L. F. Martorell*; Vega Alta, *Montezuma speciosissima*, 9-VII-35, Faxon et al.*. Quarantine interceptions: At San Juan, *Kopsias* sp., 30-X-74, C. Havens; At New York, *Lippia* sp., 18-V-32, A. G. Lennox*, *Punica granatum*, 22-VII-35, Locke and Post*, *Sterculia apetala*, 20-XII-35, H. Fox*. Records marked * previously identified as *S. oleae*.

Saissetia neglecta De Lotto.—Medina Gaud and Garcia Tuduri, 1977: *Saissetia oleae* (Bernard): Wolcott, 1948; *Saissetia oleae* (Olivier): Martorell, 1976 (misidentifications in part). Additional records: Vicinity of Mayaguez, *Coccoloba pirifolia*, 4 to 10-III-06, J. F. Cowell*; Ponce, *Tamarindus indica*, 28-VI-32, Bofill and Oakley*; Santurce, *Citrus aurantifolia*, 1-VII-47, F. Sein*; unknown locality, *Dieffenbachia amoena*, 26-IV-78, F. McHenry, *Platyserium* sp., 25-IV-77, J. C. Denmark; Quarantine interceptions: At San Juan, *Annona muricata*, 3-IV-75, J. Thaw, *Citrus* sp., 21-VIII-73, A. Agostini, *Citrus paradisi*, 7-VII-25, C. E. Cooley*, *Psidium guajava*, 12-VIII-73, J. Judd; At New York, *Coffea* sp., 17-VII-39, McConnell*, *Manilkara zapota*, 17-II-36, Dodd and O'Brien*; At Philadelphia, *Mangifera indica*, 23-VII-30, W. W. Chapman*. Records marked * previously identified as *S. oleae*.

Saissetia oleae (Olivier).—Martorell, 1976: *Saissetia oleae* (Bernard): Wolcott, 1948; Martorell and Medina Gaud, 1974; Medina Gaud and Martorell, 1974. The senior author has examined the *S. oleae* material in the U.S. National Museum and found the identifiable Puerto Rican material was either *S. miranda* or *S. neglecta*. Although not seen from Puerto Rico, *S. oleae* probably occurs on the island.

Vinsonia stellifera (Westwood).—Wolcott, 1948; Martorell and Medina Gaud, 1974; Martorell, 1976.

CONCHASPIDIDAE

Conchaspis angraeci Cockerell.—Wolcott, 1948; Martorell, 1976. Additional records: Bahia Montalva, *Melochia tomentosa*, 17-VII-77, SN; Bokeron, *Coccoloba uvifera*, 18-VII-77, SN; Culebra Is., *Coccoloba uvifera*, 26-I-76, R. Gonzalez S.; Isla Verde, *Coccoloba uvifera*, 15-VII-77, SN; Vieques Is., *Hibiscus* sp., 22-VI-72, D. Miller. Quarantine interceptions: At San Juan, *Agave angustifolia marginata*, 1-IX-69, L. M. Crawford, *Agave angustifolia woodrawii*, 2-III-70, L. M. Crawford.

Conchaspis cordiae Mamet **.—*Conchaspis orchidarum* Mamet: Martorell, 1976 (misidentification). This record is based on a poor specimen deposited in the U.S. National Museum.

DIASPIDIDAE

Abgrallaspis cyanophylli (Signoret).—Records: Central Aquirre, *Guaiacum officinale*, ltr. 27-XI-25, H. L. Dozier; Ensenada, *Pithecellobium unguis-cacti*, 17-XII-35, H. L. Dozier; Isabela, *Persea americana*, 29-III-55, H. Goldstein; Isla Verde, *Jasminum* sp., 12-VII-77, SN; Mayaguez, *Cocos nucifera*, 3-XII-35, H. K. Plank; Ramey Field, *Jasminum* sp., 29-IV-48, various collectors; Rio Piedras, *Chlorophytum* sp., 25-XI-76, C. Mantaras. Quarantine interceptions: At New York, *Annona reticulata*, 5-V-26, Kennedy et al., *Annona* sp., 20-X-47, Johnston and Burnham. Refer to comments in Wolcott (1948) and Martorell (1976) concerning *Hemiberlesia palmae* (Cockerell) and *Aspidiotus cyanophylli*.

Aonidiella aurantii (Maskell).—Wolcott, 1948; Martorell, 1976. Although this species was not seen by the authors, it probably occurs on the island.

Aonidiella comperei McKenzie.—Wolcott, 1948; Martorell, 1976.

Aonidiella inornata McKenzie.—Nakahara and Miller, 1978a.

Aonidiella orientalis (Newstead).—Wolcott, 1948; Martorell, 1976.

Aonidomytilus albus (Cockerell) **.—Record: Vieques Is., *Carica papaya*, 31-VII-72, D. Miller.

Aspidaspis arctostaphyli (Cockerell and Robinson)++.—Martorell, 1976; *Aspidiotus arctostaphyli* Cockerell and Robinson: Wolcott, 1948. This species recorded from *Stenotaphrum secundatum* apparently is a misidentification.

Aspidiella hartii (Cockerell).—Martorell, 1976.

Aspidiella sacchari (Cockerell).—Martorell, 1976; *Targionia sacchari* (Cockerell): Wolcott, 1948.

Aspidiotus destructor Signoret.—Wolcott, 1948; Martorell, 1976.

Aspidiotus excisus Green.—Medina Gaud and Garcia Tuduri, 1977; *Temnaspidotus excisus* (Green): Dekle, 1966.

- Aspidiotus nerii* Bouché.—Martorell, 1976; *Aspidiotus hederæ* (Vallot): Wolcott, 1948.
- Aspidiotus spinosus* Comstock +.—Bureau of Entomology and Plant Quarantine, 1936. Additional record: Quarantine interception at Miami, *Cajanus cajan*, 5-II-58, C. Bennett.
- Aulacaspis rosæ* (Bouché).—Wolcott, 1948; Martorell, 1976.
- Aulacaspis tubercularis* Newstead.—Martorell, 1976. A common species on *Mangifera indica* on the island.
- Chrysomphalus aonidium* (Linnaeus).—Wolcott, 1948; Martorell, 1976.
- Chrysomphalus dictyospermi* (Morgan).—Wolcott, 1948; Martorell, 1976. Additional records: Near San Germán, *Persea americana*, 21-VII-77, SN; San Juan, *Ixora* sp., 13-III-75, H. O'Steen et al.; unknown location, *Draecena marginata*, 28-IV-78, Stolley et al.
- Clavaspis herculeana* (Doane and Hadden).—Martorell, 1976; *Aspidiotus herculeanus* Hadden: Wolcott, 1948. Additional records: Bahía Montalva, *Avicennia nitida*, 17-VII-77, SN; Isla Verde, *Erythrina* sp., 14-VII-77, SN.
- Crenulaspidotus portoricensis* (Lindinger).—Martorell, 1976; *Chrysomphalus (Melanaspis) portoricensis* Lindinger: Wolcott, 1948.
- Dactylaspis crotonis* (Ferris).—Martorell, 1976; *Lepidosaphes crotonis* Ferris: Wolcott, 1948.
- Diaspis boisduvalii* Signoret.—Wolcott, 1948; Martorell and Medina Gaud, 1974; Martorell, 1976.
- Diaspis bromeliae* (Kerner).—Wolcott, 1948; Martorell, 1976.
- Diaspis echinocacti* (Bouché).—Wolcott, 1948.
- Duplaspidotus fossor* (Newstead).—Nakahara, 1978a.
- Duplaspidotus tesseratus* (Grandpré and Charmoy).—*Pseudaonidia tesserata* (de Charmoy): Wolcott, 1948; Martorell, 1976.
- Fiorinia fioriniae* (Targioni-Tozzetti).—Medina Gaud and Garcia Tuduri, 1977. Additional record: Rio Piedras, *Artocarpus integrifolia*, 12-VII-77, SN.
- Furcaspis biformis* (Cockerell).—Wolcott, 1948; Martorell and Medina Gaud, 1974; Martorell, 1976.
- Genaparlatoria pseudaspidotus* (Lindinger).—Martorell and Medina Gaud, 1974; Martorell, 1976.
- Gymnaspis aechmeae* Newstead.—Medina Gaud and Garcia Tuduri, 1977.
- Haliaspis arecibo* Howell.—Howell, 1978; *Chionaspis distichlii* Ferris: Wolcott, 1948; Martorell, 1976 (misidentification).
- Haliaspis nakaharai* Howell.—Howell, 1978.
- Hemiberlesia lataniae* (Signoret).—Martorell, 1976; *Aspidiotus lataniae* Signoret: Wolcott, 1948. Additional records: Boqueron, *Melicoccus bijugatus*, *Nerium oleander*, 19-VII-77, SN; quarantine interception at San Juan, *Agave angustifolia woodrowii*, 20-III-75, L. M. Crawford.

- Hemiberlesia palmae* (Cockerell).—Martorell, 1976; *Aspidiotus palmae* Cockerell; Wolcott, 1948. Additional record: Unknown location, *Neoregelia carolinae*, 4-II-78, F. L. Ware.
- Hemiberlesia rapax* (Comstock).—Martorell, 1976; *Aspidiotus camelliae* (Signoret); Wolcott, 1948.
- Hemigymnaspis eugeniae* (Lindinger).—Martorell, 1976; *Melanaspis* (*Hemigymnaspis*) *eugeniae* Lindinger; Wolcott, 1948.
- Howardia biclavis* (Comstock).—Wolcott, 1948; Martorell, 1976. Additional records: Boqueron, *Ficus* sp., 19-VII-77, SN; Joyuda, *Alternanthera sessilis*, *Lantana camara*, 18-VII-77, SN; Near San Germán, *Bixa orellana*, *Persea americana*, 21-VII-77, SN; Reserva Forestal Maricao, *Clusia* sp., 21-VII-77, SN.
- Ischnaspis longirostris* (Signoret).—Wolcott, 1948; Martorell, 1976. Additional records: Yabucaco, *Securidaca volubilis*, 7-V-75, S. Medina Gaud et al.; unknown location, *Vriesia polonia*, 22-X-75, F. L. Ware.
- Kuwanaspis linearis* (Green).—Nakahara, 1978a.
- Lepidosaphes beckii* (Newman).—Wolcott, 1948; Martorell, 1976.
- Lepidosaphes conchiformis* (Gmelin) ++.—*Lepidosaphes ficus* Signoret; Martorell, 1976. This record is based on one quarantine interception from Puerto Rico at California in fiscal year 1951. We have not been able to substantiate this record and because this species does not occur in the Caribbean Region, we do not consider this species established in Puerto Rico.
- Lepidosaphes gloverii* (Packard).—Wolcott, 1948; Martorell, 1976.
- Lepidosaphes rubrovittatus* Cockerell.—Nakahara and Miller, 1978b.
- Lepidosaphes tokionis* (Kuwana).—Martorell, 1976; *Lepidosaphes lasianthi* Green; Wolcott, 1948.
- Lepidosaphes vermiculus* Mamet.—Nakahara, 1978a.
- Lopholeucaspis cockerelli* (Grandpré and Charmoy).—*Leucaspis cockerelli* (de Charmoy); Wolcott, 1948; Martorell and Medina Gaud, 1973; Martorell, 1976. Additional records: Isla Verde, *Calophyllum* sp., 10-VII-77, SN; near Mameyes, *Citrus* sp., 16-VII-77, SN; Rio Piedras, *Dracaena fragrans*, 23-VII-77, SN; quarantine interception at San Juan, *Agave angustifolia marginata*, 1-IX-69, L. M. Crawford.
- Melanaspis bromeliae* (Leonardi).—*Targionia bromeliae*; Plant Quarantine and Control Administration, 1932. Additional records: Corozal, *Ananas* sp., 2-IV-36, Smith and Plank; quarantine interception at San Juan, *Ananas comosus*, 4-VIII-70, M. South and L. M. Crawford.
- Melanaspis coccolobae* Ferris **.—Records: Limestone hills, 7 mi. w. Ponce, *Coccoloba obtusifolia*, 26-XI-02, A. A. Heller; Loquillo Forest, *Coccoloba borinquensis*, 1-II-32, Barbour and Gerhart; Playa de Esperanza, *Coccoloba diversifolia*, 7-II-14, J. A. Shafer; Ponce to Penneles,

- Coccoloba laurifolia*, 22-II-06, Britton and Corwell; Vieques Is., *Coccoloba laurifolia*, 11-II-14, J. A. Shafer.
- Melanaspis nigropunctata* (Cockerell).—Martorell, 1976; *Chrysomphalus nigropunctatus* Cockerell: Wolcott, 1948.
- Melanaspis tenax* McKenzie +.—Girard, 1974.
- Morganella longispina* (Morgan).—Martorell, 1976. Additional records: Quarantine interception at Baltimore, *Citrus paradisi*, 29-VII-36, C. G. Latham; at New York, *Spondias dulcis*, 7-III-38, Bassen.
- Mycetaspis personata* (Comstock).—Martorell, 1976; *Chrysomphalus personatus* (Comstock): Wolcott, 1948.
- Octaspidiotus araucariae* Adachi and Fullaway.—Nakahara and Miller, 1978a.
- Odonaspis penicillata* Green.—Nakahara et al., 1978.
- Odonaspis ruthae* Kotinsky.—Miller, 1978.
- Odonaspis saccharicaulis* (Zehntner) **.—Records: Guanica Centrale Eusenada, *Panicum molle*, 9-III-12, T. H. Jones; quarantine interception at San Juan, *Saccharum officinarum*, 11-XII-74, J. Thaw.
- Parlatoria crotonis* Douglas.—Morrison, 1939. Additional records: Parguera, *Codiaeum variegatum*, 18-VII-77, SN; Rio Piedras, *Codiaeum variegatum*, 21-IV-76, J. Garcia Tuduri; quarantine interception at New York, *Codiaeum* sp., 1923.
- Parlatoria pergandii* Comstock.—Wolcott, 1948; Martorell, 1976.
- Parlatoria proteus* (Curtis).—Nakahara et al., 1978. Additional records: Quarantine interceptions at San Juan, *Aechmea* sp., 28-X-74, J. Thaw, *Mangifera indica*, 1-VI-76, C. E. Miller.
- Parlatoria ziziphi* (Lucas).—Records: In the U.S.D.A. Coccoidea reference file is a report that this species was found on a tangerine tree at Mayaguez in 1905. The species was intercepted at San Juan from Mayaguez on *Citrus* in 1975 and subsequent surveys found it established in a thirty-five mile area around Mayaguez on *Citrus*.
- Pinnaspis aspidistrae* (Signoret).—Wolcott, 1948; Martorell, 1976; *Pinnaspis caricis* Ferris: Martorell, 1976.
- Pinnaspis buxi* (Bouché).—Wolcott, 1948; Martorell, 1976. Additional records: Rio Piedras, *Monstera deliciosa*, 15-VIII-75, J. Garcia Tuduri; unknown location, *Vriesia polonia*, 22-X-75, F. L. Ware.
- Pinnaspis strachani* (Cooley).—Wolcott, 1948; Medina Gaud and Martorell, 1974; Martorell, 1976. Additional records: Isla Verde, *Erythrina* sp., 14-VII-77, SN; Parguera, *Rhizophora mangle*, 17-VII-77, *Bryophyllum pinata*, 18-VII-77, SN.
- Pseudaonidia trilobitiformis* (Green).—Medina Gaud and Garcia Tuduri, 1977. Additional records: Isla Verde, *Carissa grandiflora*, *Jasminum* sp., 14-VII-77, SN; Reserva Forestal Maricao, unknown shrub, 21-VII-77,

- SN; San Juan, *Rosa* sp., 11-VII-77, E. Feliu and SN; Toa Baja, *Ixora coccinea*, 13-III-77, H. O'Steen et al. Quarantine interceptions: At San Juan, *Kopsias* sp., 30-X-74, C. Havens; at New York, *Mangifera indica*, 23-XI-43, Owrey.
- Pseudaulacaspis major* (Cockerell).—Martorell, 1976; *Aulacaspis* (*Pseudaulacaspis*) *major* (Cockerell): Wolcott, 1948. Additional records: Boqueron, *Salix* sp., 21-VII-77, SN; Playa Aguila, unknown tree, 18-VII-77, SN.
- Pseudaulacaspis pentagona* (Targioni-Tozzetti).—Wolcott, 1948; Martorell, 1976.
- Pseudischnaspis howreyi* (Cockerell).—Wolcott, 1948; Martorell, 1976. Additional record: Reserva Forestal Maricao, *Coccoloba sentenisi*, 21-VII-77, SN.
- Pseudoparlatoria ostreata* Cockerell.—Wolcott, 1948; Martorell, 1976. Additional record: Parguera, *Bryophyllum pinnata*, 18-VII-77, SN.
- Pseudoparlatoria parlatorioides* (Comstock).—Wolcott, 1948; Martorell, 1976.
- Quadraspidiotus forbesi* (Johnson) ++.—*Aspidiotus forbesi* Johnson: Martorell, 1976. This record apparently is a misidentification.
- Radionaspis indica* (Marlatt).—*Leucaspis indica* Marlatt: Wolcott, 1948; Martorell, 1976.
- Selenaspis articulatus* (Morgan).—Wolcott, 1948; Martorell, 1976. Additional records: Parguera, *Cordyline terminalis*, 18-VII-77, SN; unknown location, *Dracaena marginata*, 17-III-78, M. Hornyak.
- Unaspis citri* (Comstock).—Wolcott, 1948; Martorell, 1976.

LECANODIASPIDIDAE

- Lecanodiaspis ingae* Howell and Kosztarab.—Howell and Kosztarab, 1972; *Lecanodiaspis* sp.: Wolcott, 1948; Martorell, 1976.

MARGARODIDAE

- Crypticerya rosae* (Riley and Howard).—Wolcott, 1948; Martorell, 1976.
- Icerya monserratis* Riley and Howard.—Wolcott, 1948; Martorell, 1976.
- Icerya purchasi* Maskell.—Wolcott, 1948; Medina Gaud and Martorell, 1974; Martorell, 1976.
- Margarodes formicarum* Guilding.—Wolcott, 1948; Medina Gaud and Martorell, 1974; Martorell, 1976.

ORTHEZIIDAE

- Orthezia insignis* Browne.—Wolcott, 1948; Medina Gaud and Martorell, 1974; Martorell, 1976.
- Orthezia praelonga* Douglas.—Wolcott, 1948; Martorell, 1976. Additional record: San Juan, *Vitex* sp., 11-VII-77, E. Feliu and SN.

PSEUDOCOCCIDAE

- Antonina graminis* (Maskell).—Martorell, 1976. Additional record: Isla Verde, *Tricholaena repens*, 11-VII-77, C. E. Miller and SN.
- Brevennia rehi* (Lindinger).—Nakahara et al., 1978.
- Chaetococcus bambusae* (Maskell).—Martorell, 1976; *Antonina* (*Chaetococcus*) *bambusae* (Maskell): Wolcott, 1948.
- Chnaurococcus radicola* (Morrison).—Martorell, 1976.
- Dysmicoccus boninsis* (Kuwana).—Martorell, 1976; *Pseudococcus boninsis* (Kuwana): Wolcott, 1948.
- Dysmicoccus brevipes* (Cockerell).—Martorell, 1976; *Pseudococcus brevipes* (Cockerell): Wolcott, 1948.
- Ferrisia virgata* (Cockerell).—Medina Gaud and Martorell, 1974; Martorell, 1976; *Pseudococcus* (*Ferrisia*) *virgatus* (Cockerell): Wolcott, 1948.
- Geococcus coffeae* Green.—Wolcott, 1948; Martorell, 1976.
- Nipaecoccus nipae* (Maskell).—Martorell, 1976; *Pseudococcus nipae* (Maskell): Wolcott, 1948.
- Planococcus citri* (Risso).—Martorell, 1976; *Pseudococcus citri* (Risso): Wolcott, 1948.
- Planococcus citricus* Ezzat and McConnell.—*Pseudococcus citricus* (Ezzat and McConnell): Martorell, 1976.
- Phenacoccus gossypii* Townsend and Cockerell.—Wolcott, 1948; Martorell, 1976.
- Pseudococcus comstocki* (Kuwana) ++.—Wolcott, 1948; Martorell, 1976. A questionable record.
- Pseudococcus elisae* Borchsenius **.—Records: Bayamon, *Bidens pilosa*, IV-36, Smith and Plank*; Isla Verde, *Mucuna* sp., 11-VII-77, C. E. Miller and SN; Mayaguez, *Lantana camara*, IV-53, N. L. H. Krauss*; Playa Aguila, *Melochia tomentosa*, 18-VII-77, SN; Playa Las Croabas, *Ipomoea pres-capre*, 16-VII-77, SN; Rio Piedras, *Ipomoea batatas*, 17-IV-48, Oakley and Mills*. Quarantine interceptions: At San Juan, *Punica granatum*, 3-XII-77, J. Thaw, *Sechium edule*, 25-VII-35, McCubbin et al.*; at New York, *Cajanus cajan*, 12-II-47, M. H. Sartor*, *Musa paradisiaca*, 29-IV-35, Fyke et al.*; at San Francisco, *Aglaonema* sp., 26-X-64, B. Davis*; at Washington, D.C., *Codiaeum* sp., 2-IV-67, H. F. Lowering*. Records marked * previously identified as *P. maritimus*.
- Pseudococcus longispinus* (Targioni-Tozzetti).—Martorell, 1976; *Pseudococcus adonidum* (Linnaeus): Wolcott, 1948; Martorell and Medina Gaud, 1974.
- Pseudococcus maritimus* (Ehrhorn) ++.—Wolcott, 1948; Martorell, 1976. This species apparently does not occur in Puerto Rico. Most of the previously identified material of *P. maritimus* are misidentifications of *P. elisae*.

- Puto barberi* (Cockerell).—Wolcott, 1948: *Ceroputo barberi* (Cockerell): Martorell, 1976.
- Rhizoecus americanus* (Hambleton).—Hambleton, 1976. Additional record: Unknown location, *Neoregelia carolinae*, 31-I-79, F. L. Ware.
- Saccharicoccus sacchari* (Cockerell).—Martorell, 1976; *Trionymus sacchari* (Cockerell): Wolcott, 1948.

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